Forestry – Pesticides

Thirty-five commenters raised concerns on pesticide-related issues associated with the forestry industry in Oregon. They included personal experiences of exposure to and testing positivefor pesticides, concerns about the health effects of pesticides on people, information on effects of pesticides on fish and amphibians, ways that pesticide application is implemented and enforced, and current state and federal regulations that direct how pesticides are applied. The comments and corresponding responses are divided into three overall categories – Health-Related Comments, Environmental-Related Comments, and Program-Related Comments. **[Not sure if it's necessary to break out comments]**

Health-Related Comments

H.7(a): [Note: this comment is on health samples.] Several commenters described their personal experiences of having positive tests in urine and blood samples for 2,4-D and atrazine metabolites in the Triangle Lake Area. One commenter described second hand accounts of people with low levels of insecticides in blood samples in the western Lane County area. These commenters expressed concern that this exposure to pesticides was from drift from aerial spraying in the coastal range on forestlands. One commenter also raised concerns on health impacts to people from glyphosate application in coastal mountains.

Other commenters noted that synergistic effects or unknown components of pesticides could inhibit immune responses and pose long-term, unknown risks. Another commenter raised concern about pesticides decomposing to more toxic forms than the initial compound that was applied.

Source: 2-C, 2-F, 2-G, 2-K, 59-A, 76-A (Health-Samples), 2-J, 3-A, 42-M, 42-R, 42-T, 46-K, 54-H, 69-D, 70-D (Health-Chemical Effects), 46-O (Env-Other), 46-D (Program-General)

Response H.7 (a):

H.7(b): [Note: this comment is on drinking water.] Several commenters raised concerns about the potential for drinking water system contamination from aerial spraying of pesticides above or near these systems. Commenters identified several areas in the coastal region on these concerns. One commenter stated that their drinking water system tested positive for glyphosate. Commenters expressed concern that drinking water systems were vulnerable because of inadequate buffer protections on fish and non-fish bearing streams and that the State's program was inadequate to protect groundwater and drinking water. One commenter stated that the state does not have a program to protect groundwater or drinking water.

Source: 3-B, 27-C, 28-C, 30-G, 30-P, 30-Q, 35-L, 40-B, 42-F, 46-G, 48-F, 48-K, 53-J, 54-G2, 62-B, 62-E, 70-E, 70-H (Health-Drinking Water), 46-D, 70-H (Program-General)

Response H.7 (b):

H.7(c): [Note: this comment is related to drift both health and environmental. Will need to think about where this comment goes.] One commenter stated that herbicide drift from aerial spraying is a well-known phenomenon especially in microclimates of the Oregon Coast Range. Another commenter stated that the Oregon Health Authority allows aerial drift two to four miles from the pesticide application site, and there is no monitoring. A commenter also expressed concern on drift from aerial application of pesticides on forestlands to neighboring small organic farmers, vineyard owners, and natural forest land owner/practitioners and members of the community.

Source: 2-E, 2-I, 3-A, 42-H, 42-Q (Health-Drift), 46-I (Env-Drift), 46-D (Program-General)

Response H.7(c):
Environmental-Related Comments

H.7(d): [Note: this is on toxicity to aquatic life.] Commenters voiced concerns on the short-term and long-term impacts from pesticides and endocrine-disrupting chemicals entering into waterways from runoff and sediment erosion and the adverse impacts to fish, amphibians and other wildlife. One commenter noted that amphibians are particularly vulnerable since they have moist, permeable skin and unshelled eggs that are directly exposed to soil and water. One commenter noted that pesticides are not adequately monitored, so the effects on fish from chemicals are not fully known.

Source: 30-Q, 53-D, 54-B, 54-D, 54-G2, 58-I, 70-E, 76-D. (Env-Fish Toxicity) 69-B (Env-General), 70-O (Env-Other)

Response H.7(d):

H.7(e): [Note: comment relates to transport of pesticides into stream.] Commenters stated thatpesticides reach streams after application and that current regulations are not protective. One commenter raised concerns that aerial spraying on forest lands requires covering a large area and therefore, involves a large quantity of chemical application. Moreover, with no mandatory application buffer for non-fish bearing streams, chemicals may be sprayed to the water's edge. The commenter also discussed how pesticides bind to soil particles and can reach a waterway through surface runoff and sediment erosion or by groundwater transport through soil macropores into adjacent waters. Another commenter raised concerns that based on pesticide application records in the Triangle Lake area, more than 20 tons of pesticide products were applied in a three-year period in the study area. Another commenter noted that herbicides, such as atrazine can persist in water and bind to soil particles, and though it is legal to spray atrazine in dry channels under the Oregon Forest Practices Act, during wetter months, the atrazine may be carried downstream and affect fish.

Source: 57-CF-A, 57-CF-D, 69-E (Env-Other), 57-CF-B (Env-General), 70-G (Env-Fish Toxicity), 55-M, 69-F (Program-General), 83-M (Program-State Programs)

Response to H.7(e):

H.7(f): [Note: comments relate to specific scientific pesticide monitoring studies.] Commenters described scientific studies on pesticide applications on forestlands. One commenter described a study on fish-bearing streams (Dent and Robben, 2000) that found no pesticide contamination levels at or above 1 ppb in any of the post-spray samples analyzed. The studyalso concluded that the rules are effective at protecting water quality on Type F and Type D streams. Another commenter described the same study and asserted that the study may have underestimated pesticide levels. The same commenter noted studies done in the Clackamas Basin by USGS (Kelly et al, 2012) that showed widespread pesticide residue in water. In yet another commenter's description of the same study, the findings showsome detections in drinking water at low concentrations where potential threats to human health were negligible. The comment also noted that the study compared pesticide contamination from urban forestry, and agriculture and found that the forest land pesticide levels were rarely detectable in the McKenzie River, even though forest land accounted for the majority of property in the basin. Another commenter notes that water quality monitoring shows no evidence of detrimental impacts and that recent monitoring has not found a problem with contemporary forest aerial pesticide spray operations. The group further notes that Oregon monitors for over 100 pesticides, which will allow the state to respond if herbicides are identified to be at unacceptable levels.

Source: 57-CF-B, 77-R (Env-General), State Comments

Program-Related

Response to H.7(f):

H.7(g): [Note: comments on monitoring in general.] Many commenters wrote on the adequacy of Oregon's monitoring program for pesticides. Some commenters raised concern that there was no program to monitor private forestland clear cuts, spray and burn operations, soil contamination, and forestry pesticides in the air to measure the impact and extent of drift. One commenter asserted that the state's failure to monitoring water quality after spraying ensures that the need for larger buffers and stronger laws will not occur. Other commenters noted that drinking water should be monitored more frequently than every three years for pesticides and herbicides. Another commenter noted that the Oregon Lab does not currently have the capacity to test for glyphosate. Two commenters stated that while Oregon has a Water Quality Pesticide Management Plan, none of the pilot projects are located in the coastal area so data are not being collected through this program. One commenter noted the lack of coordination between DEQ and ODF on pesticide monitoring in a timely manner.

Two commenters noted that the Board of Forestry specifically required effectiveness monitoring and evaluation of the Chemical Rules which lay out how applicators should use pesticides and how the purposes of the rules are to ensure that chemicals do not occur in soil, air, or waters in quantities injurious to water quality or the overall maintenance of terrestrial or aquatic life. The State further describes their interagency Water Quality Pesticide Management Plan (WQPMP), which EPA approved in 2011, and the use of local Pesticide Stewardship Partnerships (PSPs). They note that pesticides in water adjacent to forestlands are a low priority based on the multi-agency approved matrix in the WQPMP based on pesticide monitoring observed on forestland that are well below any of the lowest benchmarks provided by EPA.

Source: 27-B, 27-D, 30-R, 42-G, 42-N, 42-O, 42-T, 48-H, 48-L, 49-H, 53-H, 53-I, 54-E, 54-F, 54-G1, 57-II, 57-II4, 62-C, 62-F, 70-B, 70-F, 70-J, 77-T (Program-monitoring), 30-S (Program-State Programs), State Comments

Response to H.7(g):

H.7(h): [Note: comments on adequacy of buffers] Several commenters voiced concern over inadequate buffer widths for pesticide application on fish-bearing and non-fish bearing streams and its impacts to people, drinking water, fish and wildlife. They noted that there are no required buffers for small non-fish bearing streams, and that the 60-foot buffer for fish-bearing streams required in Oregon is significantly smaller than other Northwest states with similar forest and river ecosystems. One commenter noted narrow or non-existent buffers along streams that flow into the Siletz River where there are clear cuts to the banks and aerial spraying over the cuts. Another commenter noted that positive detections of glyphosate in Jetty Creek showed that legal buffers were not working.

One commenter noted that no direct application of herbicides and most other pesticides is allowed within 60 feet for aerial application or 10 feet for ground-based applications of streams with fish use. For fungicides or non-biological insecticides, no direct application is allowed within 300 feet for aerial applications or 10 feet for ground-based applications of streams with fish use. Aerial application of these pesticides is also prohibited within 60 feet of any other streams with flowing water the time of application. The commenter further notes that Oregon relies on BMPs set by the ODA and EPA (under FIFRA) for protection of small non-fish bearing streams during pesticide applications.

Two commenters raised concerns on aerial spraying over homes and schools and supported a no-spray buffer in these areas.

Source: 28-B, 30-G, 30-P, 30-R2, 35-J, 46-C, 48-F, 54-F, 54-G4, 54-G5, 55-N, 55-O, 55-Q, 56-E, 56-F, 57-II2, 57-CF-B, 57-CF-C, 58-F, 69-C, 69-G, 72-B (Program-buffers); 30-T, 55-Q (Program-General); 54-G3, 76-C; State Comments

Response to H.7(h):

H.7(i): [Note: general comments on program; this has crossover with ag-pesticides.] Several commenters wrote on the general pesticide program in Oregon and the adequacy of their management measures in general. A few commenters noted that several laws in the State regulate pesticide practices and that Oregon law includes all requirements for when and what conditions pesticides can be applied, mixed, stored, loaded or used, and that applicators must also follow FIFRA labels. A commenter noted that pesticide labels under FIFRA have undergone significant changes since 1998 on how chemicals are applied to forests. Another commenter noted that the State Rules also provide for protection of the waters of the state and other resources when applying chemicals (OAR 629-620-0400). They describe the rules which state that applicators must follow chemical product labels, that they shall maintain vegetation required to be protected by water protection rules, and that they should take into account weather conditions such as temperature, wind, and precipitation when applying chemicals to protect non-target forest resources. State laws also describe buffers in particular areas.

Other commenters expressed concerns with the State's pesticide program and the overuse of pesticides by the timber industry and agricultural industry. Some commenters expressed personal accounts of impacts from pesticides on their health and called for stronger federal oversight and protection. Other commenters stated that Oregon needs improved pesticides application restrictions and protections for all classes of streams in forestry and agriculture and that neighboring states have stricter requirements. They cited the lack of additional ODA rules beyond the EPA pesticide labels, which have been demonstrated to be inadequate to protect threatened coho. Many commenters noted that stronger, verifiable management measures were needed to ensure that water quality and beneficial uses were protected. A commenter expressed concern about protection zone language for herbicide spraying in Lane County and that spraying was allowed to occur though the Water District had tried to prevent application in the Clear Lake Watershed. One commenter suggested that EPA should require ODF in consultation with DEQ to exercise their authority to review comments, and require modifications of forest vegetation management written plans when needed. Another commenter noted EPA's involvement in the Highway 36 Triangle Lake investigation and Curry County aerial spraying.

Source: 28-D, 57-HH, 57-II3, 69-H, 70-B, 70-C, 70-I, 71-R, 72-A, 77-S, 77-T, 81-B, 83-E (Program-State Programs), 2-B, 31-D, 38-D, 41-A, 45-B, 45-C, 46-M, 46-N, 49-H, 50-B, 54-G6, 85-C, 85-D, 85-E (Program-General), 35-F, 35-G (Program-Scope of Authority), 55-P, 57-GG (Program-Other)

Response to H.7(i):

H.7(j): [Note: comments related to notification] Commenters voiced concerns on inadequate notification of when pesticides were aerially applied. Some commenters noted the financial hardship of relocating because of the period of time when permits were allowed for spraying. They expressed concern on lowering property values because of publicity of harmful effects from pesticides near forested areas. One commenter cited one case where aerial spraying occurred in their watershed without warning, and that ODF does not inform the public of the exact date when spraying occurs instead specifying a 6-month period when it could occur. They also noted that the notification requirements were vague and that pesticide application records were not available to the public.

Source: 40-C, 42-G, 42-J, 42-K, 42-P, 42-S, 46-E, 48-G, 48-M, 70-M, 85-I (Program-Notification), 46-L (Program-Other)

Response to H.7(j):

H.7(k): [Note: comments on FIFRA and enforcement] Some commenters noted the adequacy of the pesticide label requirements under FIFRA. One commenter expressed that EPA has not revised its pesticide labels to reflect the restrictions that NMFS said were necessary to protect ESA-listed salmon. Other commenters noted that pesticide applicators on agricultural and forestry lands must adhere to the pesticide labeling requirements. However, another commenter questioned whether the federal label laws are being complied with and that there may have been a violation of the 2004 court order that required 300-foot buffers for pesticide application of 2,4-D.

Source: 30-S2, 70-K, 70-L, 70-M2, 70-N (Program-FIFRA, Enforcement)

Response to H.7(k):

H.7(l): [Note: comments on access to spray records] Commenters raised concerns on difficulties in accessing spray records. One commenter noted that pesticide application records are not available to the public, are kept by the applicator, and available only when the State Forester requests application records. An organization stated that a five-year history of pesticide use in a watershed was not available from ODF when requested. Another commenter stated that the Oregon Forest Practices Act prohibits researchers, doctors, and the public from obtaining accurate information about the types and quantities of herbicides that are sprayed.

Source: 42-L, 54-G7, 70-M (Program – Spray records)

Response to H.7(l):

Forestry – Pesticides

Thirty-five commenters raised concerns on pesticide-related issues associated with the forestry industry in Oregon. They included personal experiences of exposure~~being exposed~~ to and testing positive~~ted~~ for pesticides, concerns ~~on~~ about the health effects of pesticides on people, information on effects of pesticides on fish and amphibians, ways that pesticide application is implemented and enforced, and current state and federal regulations that direct how pesticides are applied. The comments and corresponding responses are divided into three overall categories – Health-Related Comments, Environmental-Related Comments, and Program-Related Comments. **[Not sure if it's necessary to break out comments]**

Health-Related Comments

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Other commenters noted that synergistic effects or unknown components of pesticides could inhibit immune responses and pose long-term, unknown risks. Another commenter raised concern about pesticides decomposing to more toxic forms than the initial compound that was applied.

Source: 2-C, 2-F, 2-G, 2-K, 59-A, 76-A (Health-Samples), 2-J, 3-A, 42-M, 42-R, 42-T, 46-K, 54-H, 69-D, 70-D (Health-Chemical Effects), 46-O (Env-Other), 46-D (Program-General)

Response H.7 (a):

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Source: 3-B, 27-C, 28-C, 30-G, 30-P, 30-Q, 35-L, 40-B, 42-F, 46-G, 48-F, 48-K, 53-J, 54-G2, 62-B, 62-E, 70-E, 70-H (Health-Drinking Water), 46-D, 70-H (Program-General)

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application of pesticides on forestlands to neighboring small organic farmers, vineyard owners, and natural forest land owner/practitioners and members of the community.

Source: 2-E, 2-I, 3-A, 42-H, 42-Q (Health-Drift), 46-I (Env-Drift), 46-D (Program-General)

Response H.7(c):
Environmental-Related Comments

H.7(d): [Note: this is on toxicity to aquatic life.] Commenters voiced concerns on the short-term and long-term impacts from pesticides and endocrine-disrupting chemicals entering into waterways from runoff and sediment erosion and the adverse impacts to fish, amphibians and other wildlife. One commenter noted that amphibians are particularly vulnerable since they have moist, permeable skin and unshelled eggs that are directly exposed to soil and water. One commenter noted that pesticides are not adequately monitored, so the effects on fish from chemicals are not fully known.

Source: 30-Q, 53-D, 54-B, 54-D, 54-G2, 58-I, 70-E, 76-D. (Env-Fish Toxicity) 69-B (Env-General), 70-O (Env-Other)

Response H.7(d):

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Source: 57-CF-A, 57-CF-D, 69-E (Env-Other), 57-CF-B (Env-General), 70-G (Env-Fish Toxicity), 55-M, 69-F (Program-General), 83-M (Program-State Programs)

Response to H.7(e):

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that Oregon monitors for over 100 pesticides, which will allow the state to respond if herbicides are identified to be at unacceptable levels.

Source: 57-CF-B, 77-R (Env-General), State Comments

Program-Related

Response to H.7(f):

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Two commenters noted that the Board of Forestry specifically required effectiveness monitoring and evaluation of the Chemical Rules which lay out how applicators should use pesticides and how the purposes of the rules are to ensure that chemicals do not occur in soil, air, or waters in quantities injurious to water quality or the overall maintenance of terrestrial or aquatic life. The State further describes their interagency Water Quality Pesticide Management Plan (WQPMP), which EPA approved in 2011, and the use of local Pesticide Stewardship Partnerships (PSPs). They note that pesticides in water adjacent to forestlands are a low priority based on the multi-agency approved matrix in the WQPMP based on pesticide monitoring observed on forestland that are well below any of the lowest benchmarks provided by EPA.

Source: 27-B, 27-D, 30-R, 42-G, 42-N, 42-O, 42-T, 48-H, 48-L, 49-H, 53-H, 53-I, 54-E, 54-F, 54-G1, 57-II, 57-II4, 62-C, 62-F, 70-B, 70-F, 70-J, 77-T (Program-monitoring), 30-S (Program-State Programs), State Comments

Response to H.7(g):

H.7(h): [Note: comments on adequacy of buffers] Several commenters voiced concern over inadequate buffer widths for pesticide application on fish-bearing and non-fish bearing streams and its impacts to people, drinking water, fish and wildlife. They noted that there are no required buffers for small non-fish bearing streams, and that the 60-foot buffer for fish-bearing streams required in Oregon is significantly smaller than other Northwest states with similar forest and river ecosystems. One commenter noted narrow or non-existent buffers along streams that flow into the Siletz River where there are clear cuts to the banks and aerial spraying over the cuts. Another commenter noted that positive detections of glyphosate in Jetty Creek showed that legal buffers were not working.

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application. The commenter further notes that Oregon relies on BMPs set by the ODA and EPA (under FIFRA) for protection of small non-fish bearing streams during pesticide applications.

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Source: 28-B, 30-G, 30-P, 30-R2, 35-J, 46-C, 48-F, 54-F, 54-G4, 54-G5, 55-N, 55-O, 55-Q, 56-E, 56-F, 57-II2, 57-CF-B, 57-CF-C, 58-F, 69-C, 69-G, 72-B (Program-buffers); 30-T, 55-Q (Program-General); 54-G3, 76-C; State Comments

Response to H.7(h):

H.7(i): [Note: general comments on program; this has crossover with ag-pesticides.] Several commenters wrote on the general pesticide program in Oregon and the adequacy of their management measures in general. A few commenters noted that several laws in the State regulate pesticide practices and that Oregon law includes all requirements for when and what conditions pesticides can be applied, mixed, stored, loaded or used, and that applicators must also follow FIFRA labels. A commenter noted that pesticide labels under FIFRA have undergone significant changes since 1998 on how chemicals are applied to forests. Another commenter noted that the State Rules also provide for protection of the waters of the state and other resources when applying chemicals (OAR 629-620-0400). They describe the rules which state that applicators must follow chemical product labels, that they shall maintain vegetation required to be protected by water protection rules, and that they should take into account weather conditions such as temperature, wind, and precipitation when applying chemicals to protect non-target forest resources. State laws also describe buffers in particular areas.

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Source: 28-D, 57-HH, 57-II3, 69-H, 70-B, 70-C, 70-I, 71-R, 72-A, 77-S, 77-T, 81-B, 83-E (Program-State Programs), 2-B, 31-D, 38-D, 41-A, 45-B, 45-C, 46-M, 46-N, 49-H, 50-B, 54-G6, 85-C, 85-D, 85-E (Program-General), 35-F, 35-G (Program-Scope of Authority), 55-P, 57-GG (Program-Other)

Response to H.7(i):

H.7(j): [Note: comments related to notification] Commenters voiced concerns on inadequate notification of when pesticides were aerially applied. Some commenters noted the financial hardship of relocating because of the period of time when permits were allowed for spraying. They expressed concern on lowering property values because of publicity of harmful effects from pesticides near forested areas. One commenter cited one case where aerial spraying occurred in their watershed without warning, and that ODF does not inform the public of the exact date when spraying occurs instead specifying a 6-month

period when it could occur. They also noted that the notification requirements were vague and that pesticide application records were not available to the public.

Source: 40-C, 42-G, 42-J, 42-K, 42-P, 42-S, 46-E, 48-G, 48-M, 70-M, 85-I (Program-Notification), 46-L (Program-Other)

Response to H.7(j):

H.7(k): [Note: comments on FIFRA and enforcement] Some commenters noted the adequacy of the pesticide label requirements under FIFRA. One commenter expressed that EPA has not revised its pesticide labels to reflect the restrictions that NMFS said were necessary to protect ESA-listed salmon. Other commenters noted that pesticide applicators on agricultural and forestry lands must adhere to the pesticide labeling requirements. However, another commenter questioned whether the federal label laws are being complied with and that there may have been a violation of the 2004 court order that required 300-foot buffers for pesticide application of 2,4-D.

Source: 30-S2, 70-K, 70-L, 70-M2, 70-N (Program-FIFRA, Enforcement)

Response to H.7(k):

H.7(l): [Note: comments on access to spray records] Commenters raised concerns on difficulties in accessing spray records. One commenter noted that pesticide application records are not available to the public, are kept by the applicator, and available only when the State Forester requests application records. An organization stated that a five-year history of pesticide use in a watershed was not available from ODF when requested. Another commenter stated that the Oregon Forest Practices Act prohibits researchers, doctors~~rn~~, and the public from obtaining accurate information about the types and quantities of herbicides that are sprayed.

Source: 42-L, 54-G7, 70-M (Program – Spray records)

Response to H.7(l):